

4B. INJURIES IN METAL MINING

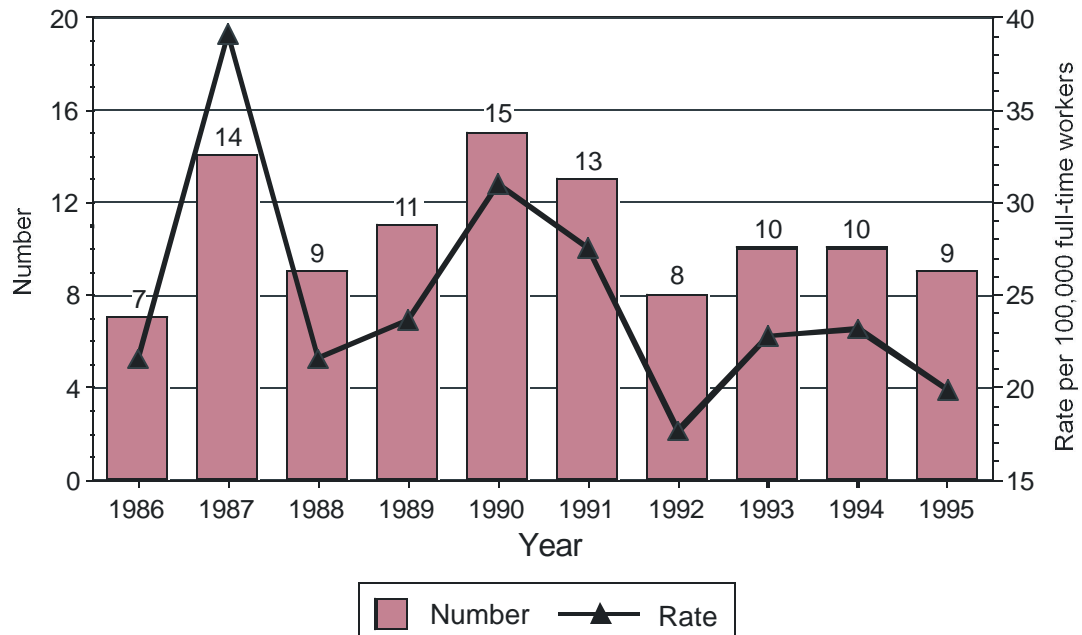


Figure 4B-1.—Metal operators: number and rate (per 100,000 workers) of fatal injuries by year, 1986-1995. (Source: MSHA data)

Table 4B-1.—Metal operators: number and average annual rate (per 100,000 workers) of fatal injuries by subunit, 1986-1995.

<u>Mining operation</u>	<u>Number, 1986-1995</u>	<u>Average annual rate per 100,000 full-time workers</u>
Underground mines:		
Underground operations	56	87.6
Surface operations	5	29.7
Surface mines:		
Strip	31	20.2
Dredge	0	*
Other surface mining	0	*
Independent shops/yards	1	*
Mill	13	7
Office	0	*
Total	106	22

* Rate not calculated because there were fewer than 3 fatalities

Source: Mine Safety and Health Administration data.

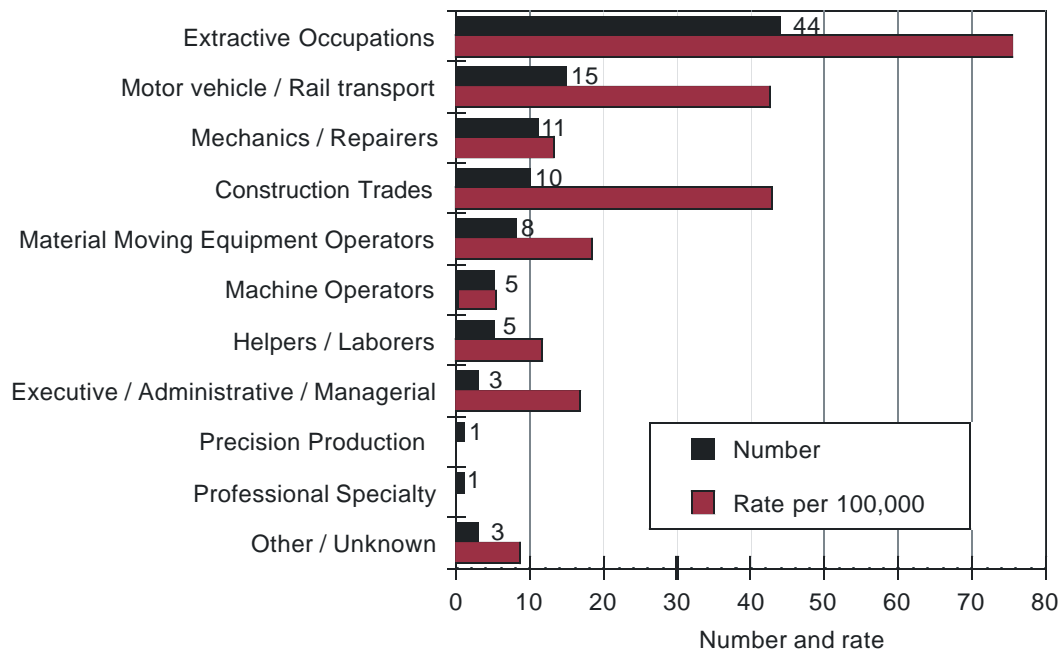


Figure 4B-2.—Metal operators: number and rate (per 100,000 workers) of fatal injuries by U.S. Bureau of the Census Occupation Division, 1996-1995. (Source: MSHA data)

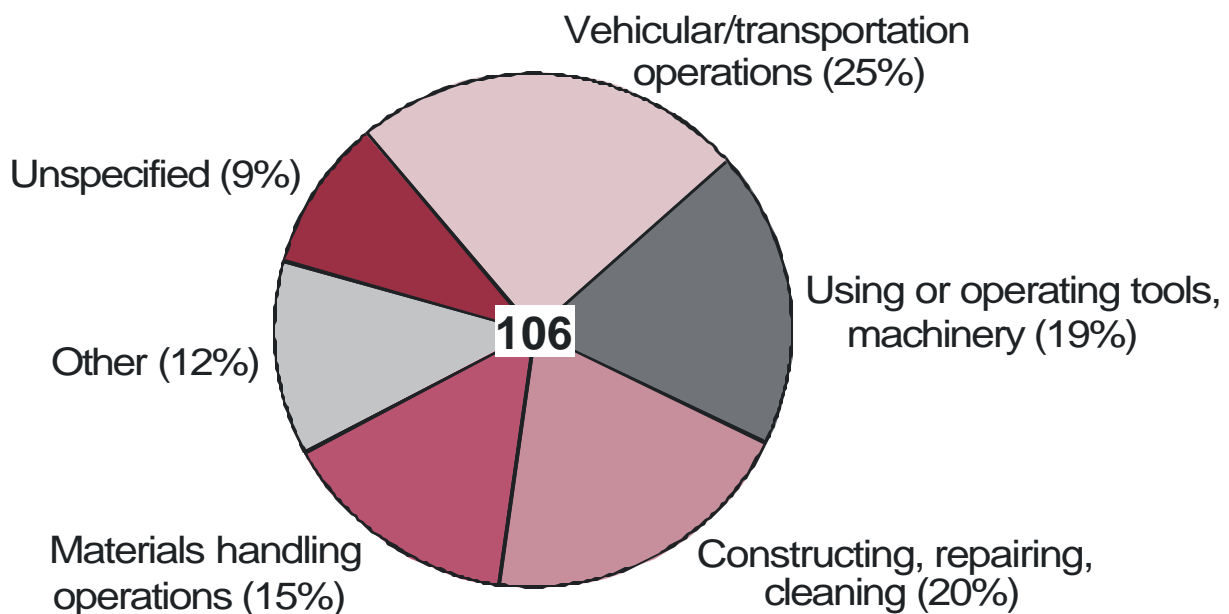


Figure 4B-3.—Metal operators: number of fatal injuries by work activity, 1986-1995. (Source: MSHA data)

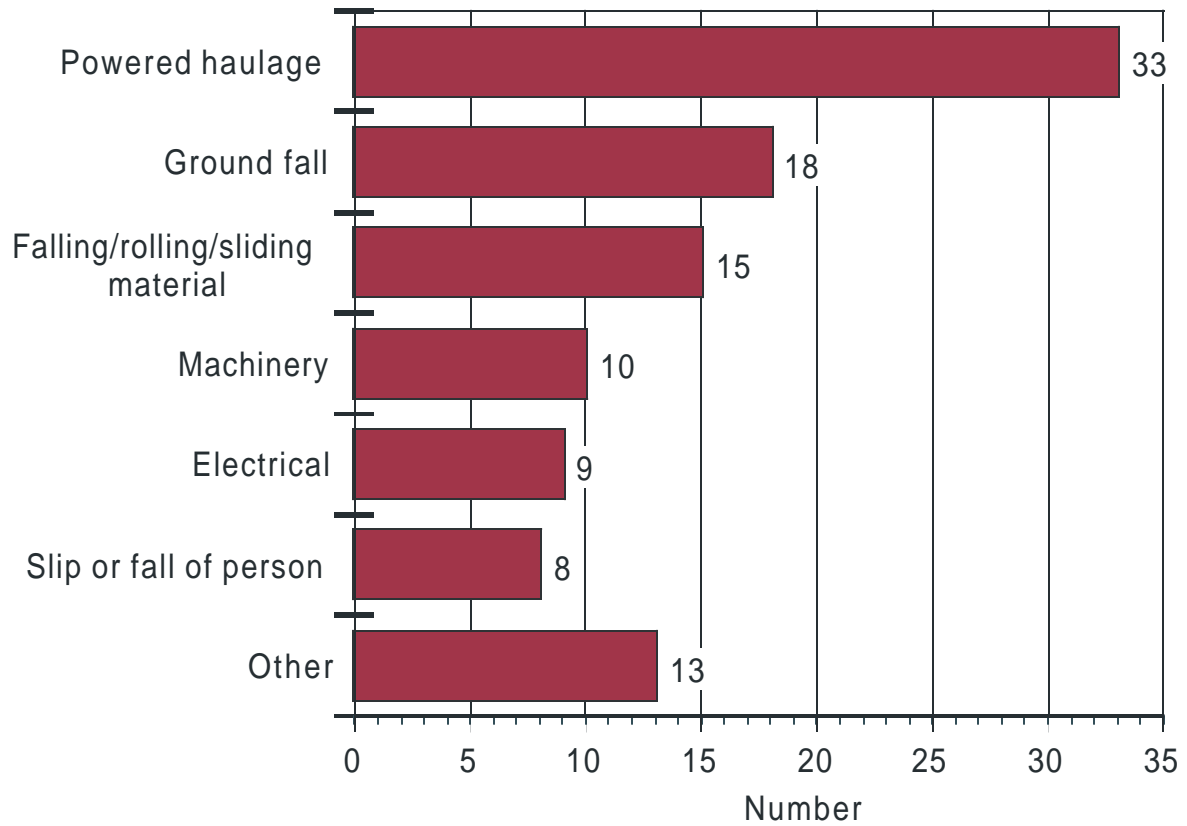


Figure 4B-4.—Metal operators: number of fatal injuries by MSHA accident classification, 1986-1995. (Source: MSHA data)

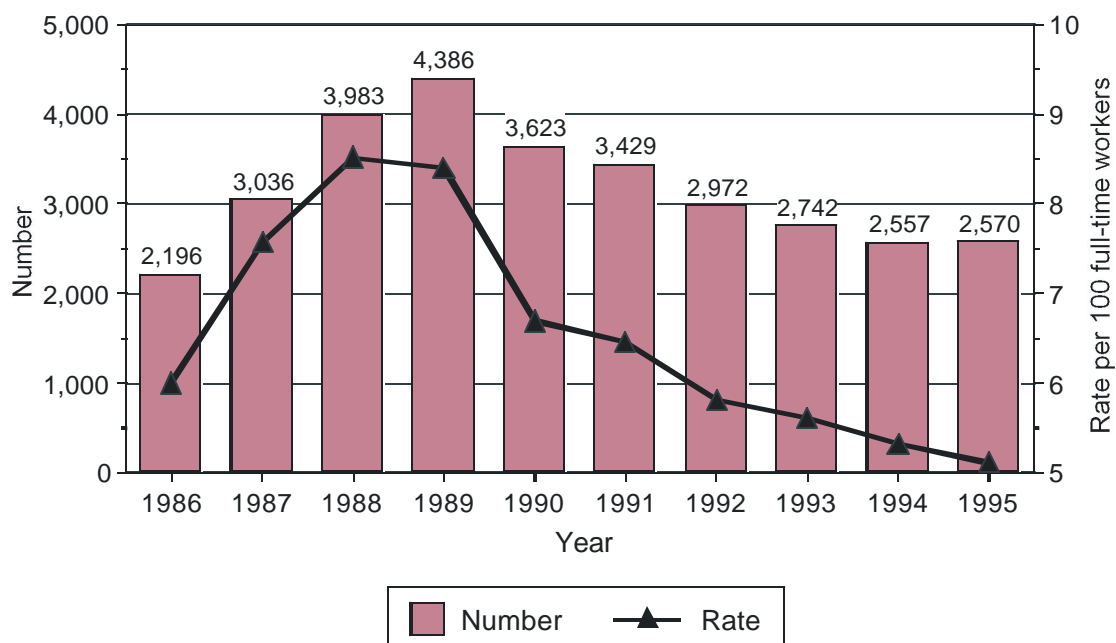


Figure 4B-5.—Metal operators: number and rate (per 100 workers) of nonfatal injuries by year, 1986-1995.
(Source: MSHA data)

Table 4B-2.—Metal operators: number and average annual rate (per 100 workers) of nonfatal injuries by subunit, 1986-1995.

<u>Mining operation</u>	<u>Number, 1986-1995</u>	<u>Average annual rate per 100 full-time workers</u>
Underground mines:		
Underground operations	8,177	12.79
Surface operations	1,293	7.67
Surface mines:		
Strip	8,179	5.33
Dredge	417	9.49
Other surface mining	71	9.67
Independent shops/yards	276	6.61
Mill	12,921	6.98
Office	160	0.3
Total	31,494	6.52

Source: Mine Safety and Health Administration data.

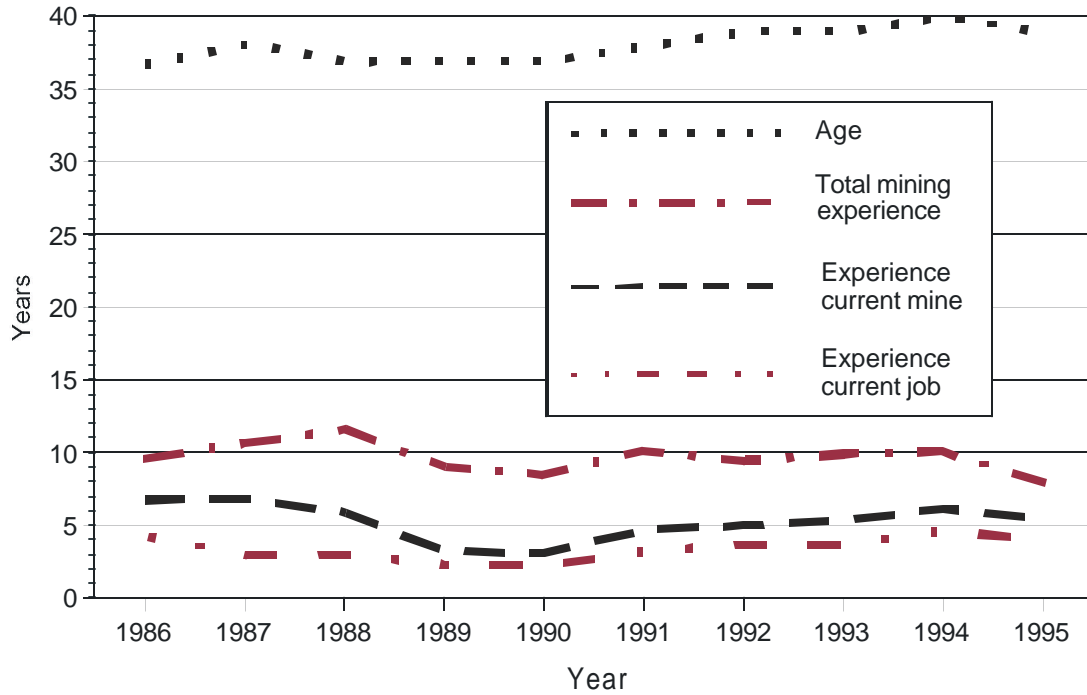


Figure 4B-6.—Metal operators: median values for age, total mining experience, experience in current mine, and experience in current job for workers with nonfatal injuries by year, 1986-1995. (Source: MSHA data)

Table 4B-3.—Metal operators: nonfatal injuries, 1986-1995, by nature of injury. Number of cases, percentage of cases with one or more lost workdays, mean days lost work per case, total days work lost for all cases, and statutory days charged for all cases.

Nature of Injury	Number of cases	Lost workday cases (%)	Mean days lost work	Total days lost	Total statutory days
Sprains and strains	10,781	59.0	21.81	234,696	17,540
Fracture	3,605	43.5	22.86	82,399	15,912
Contusions	2,306	50.4	11.67	26,908	0
Lacerations	7,371	12.8	2.05	15,111	1,870
Hernia	366	82.5	26.12	9,560	13,600
Amputation or enucleation	191	66.5	30.75	5,874	74,025
Dislocation	194	54.6	27.72	5,377	950
Joint, tendon, or muscle inflammation or irritation	247	50.6	21.51	5,313	0
Burn, heat	671	33.2	6.94	4,657	450
Crushing	260	40.0	12.32	3,204	6,950
Burn, chemical	733	32.7	4.32	3,166	0
Noncontact electric arc burn	216	42.1	5.46	1,179	0
Brain concussion	63	79.4	15.59	982	0
Poisoning	166	41.6	4.75	788	0
Abrasions	417	33.3	1.88	784	0
Electrical burn	21	57.1	21.29	447	0
Dust in eyes	705	14.5	0.57	401	0
Electric shock	29	68.6	29.00	269	0
Other specified causes	405	48.9	12.66	5,137	6,943
Multiple injuries, unspecified	2,239	50.0	14.79	44,193	16,785
Other unspecified injuries	528	57.8	22.41	11,835	75
Total	31,494	42.4	14.68	462,279	155,100

Source: Mine Safety and Health Administration data.

Table 4B-4.—Metal operators: nonfatal injuries, 1986-1995, by work activity. Number of cases, percentage of cases with one or more lost workdays, mean days lost work per case, total days work lost for all cases, and statutory days charged for all cases.

Work activity	Number of cases	Lost workday cases (%)	Mean days lost work	Total days lost	Total statutory days
Materials handling	9,148	44.9	14.68	134,332	48,010
Using or operating tools or machinery	8,724	32.8	10.32	90,071	32,535
Constructing, repairing or cleaning	5,894	38.7	13.36	78,767	35,735
Vehicular and transportation operations	3,585	55.6	21.86	77,935	7,570
Bodily movement	3,020	50.6	18.85	56,914	6,360
Other	830	47.1	16.71	13,871	20,690
Unspecified	313	62.6	33.19	10,389	4,200
Total	31,494	42.4	14.68	462,279	155,100

Source: Mine Safety and Health Administration data.

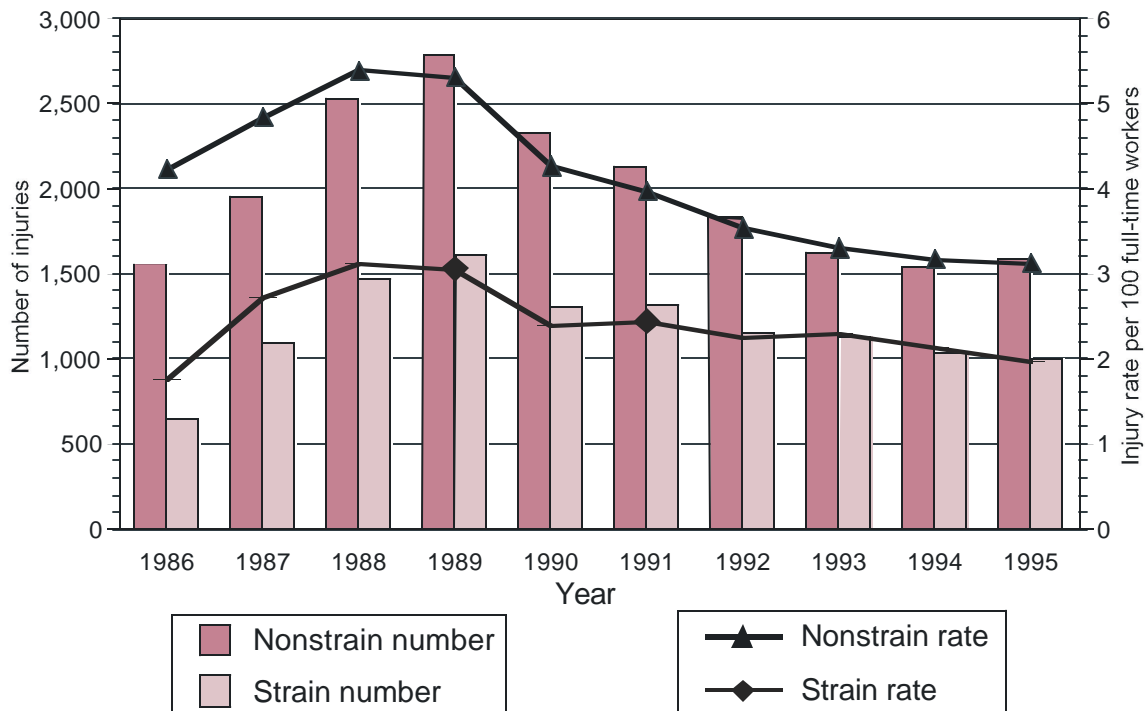


Figure 4B-7.—Metal operators: nonfatal injuries 1986-1995. Number and rate (per 100 workers) of strain and nonstrain injuries by year, 1986-1995. (Source: MSHA data)

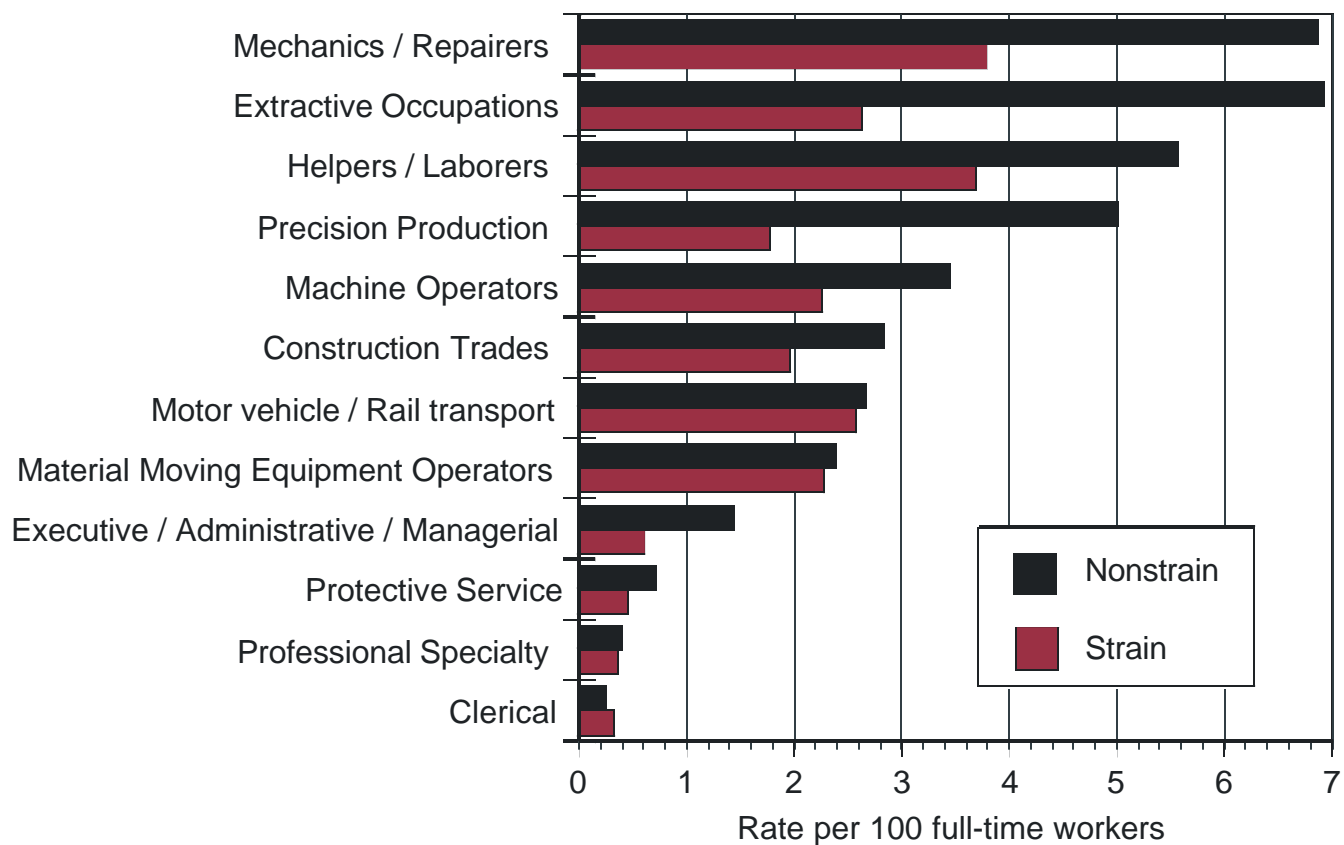


Figure 4B-8.—Metal operators: nonfatal injuries 1986-1995. Number and rate (per 100 workers) of strain and nonstrain injuries by U.S. Bureau of the Census Occupation Division, 1986-1995. (Data on occupations were missing for 915 out of 31,492 cases (2.9%).) (Source: MSHA data)

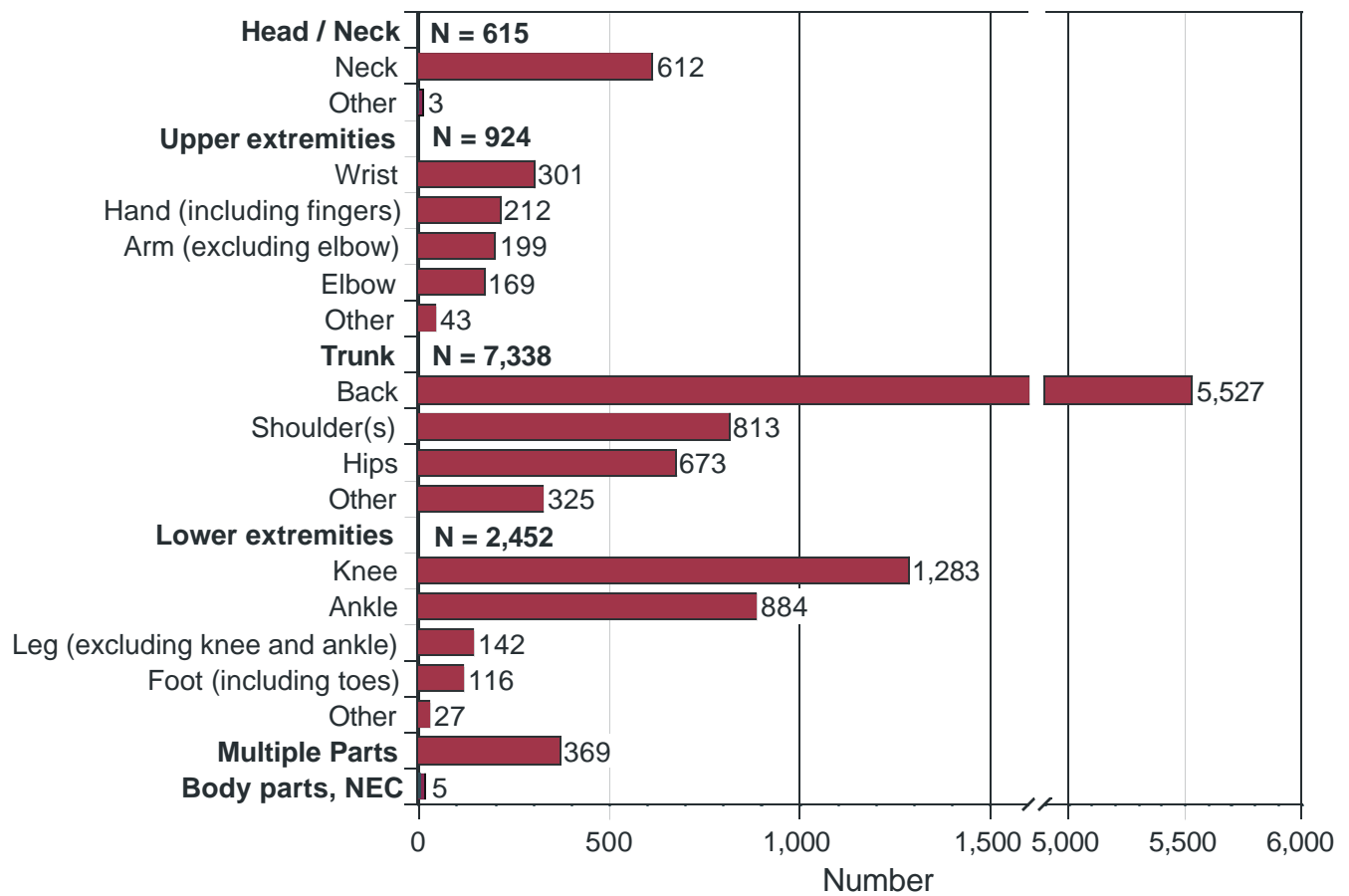


Figure 4B-9.—Metal operators: number of (nonfatal) strain injuries by body part injured, 1986-1995. (Source: MSHA data)

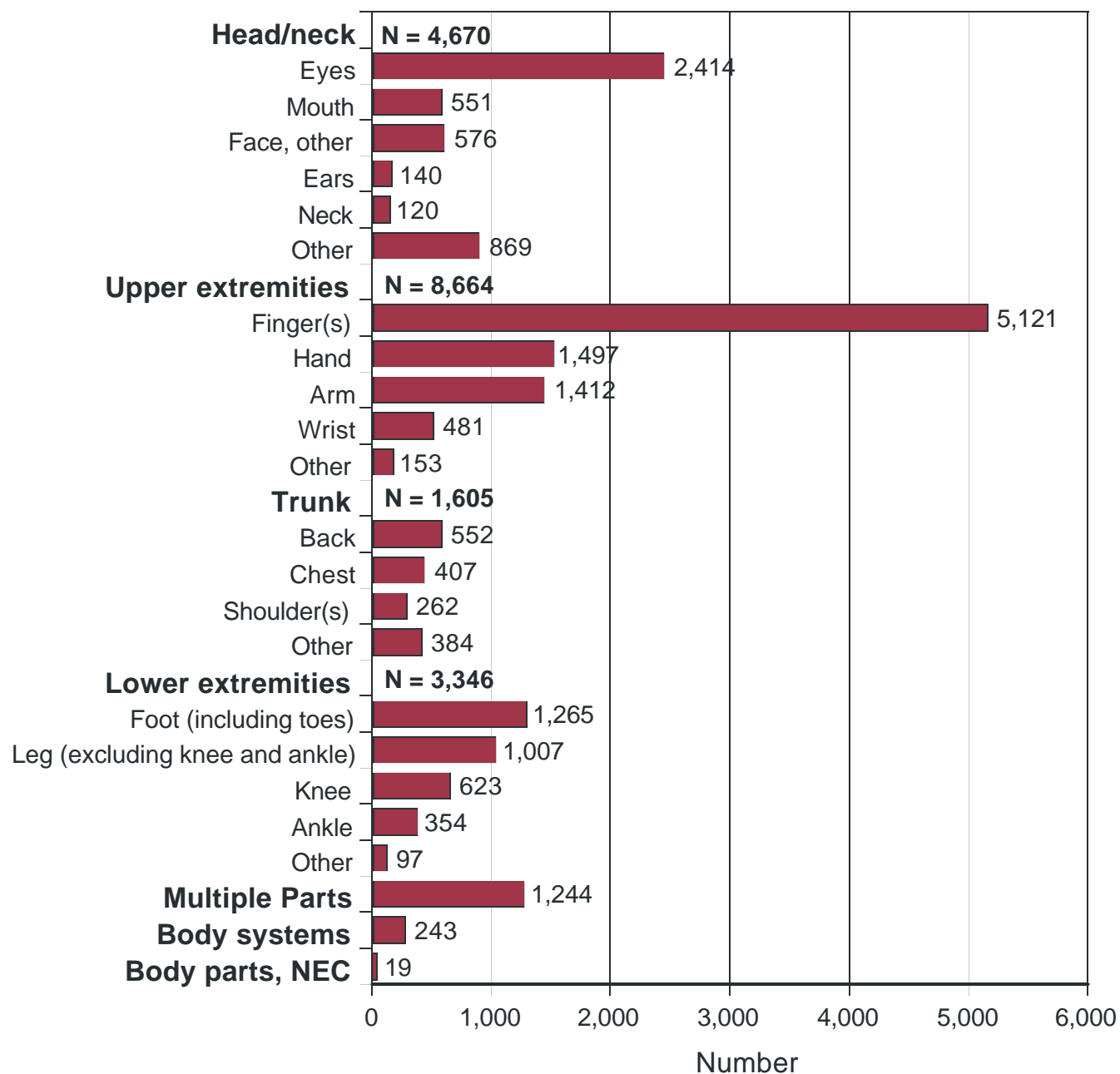


Figure 4B-10.—Metal operators: number of (nonfatal) nonstrain injuries by body part injured, 1986-1995. (Source: MSHA data)

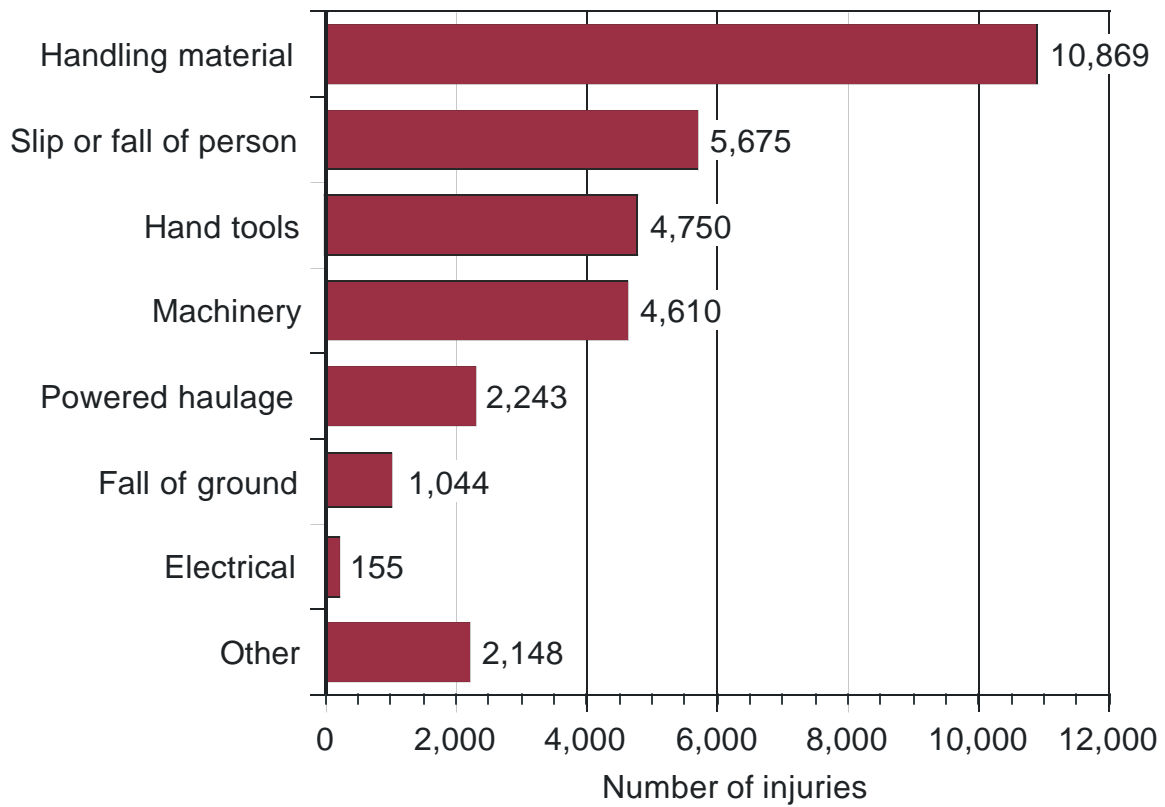


Figure 4B-11.—Metal operators: number of nonfatal injuries by MSHA accident classification, 1986-1995.
(Source: MSHA data)

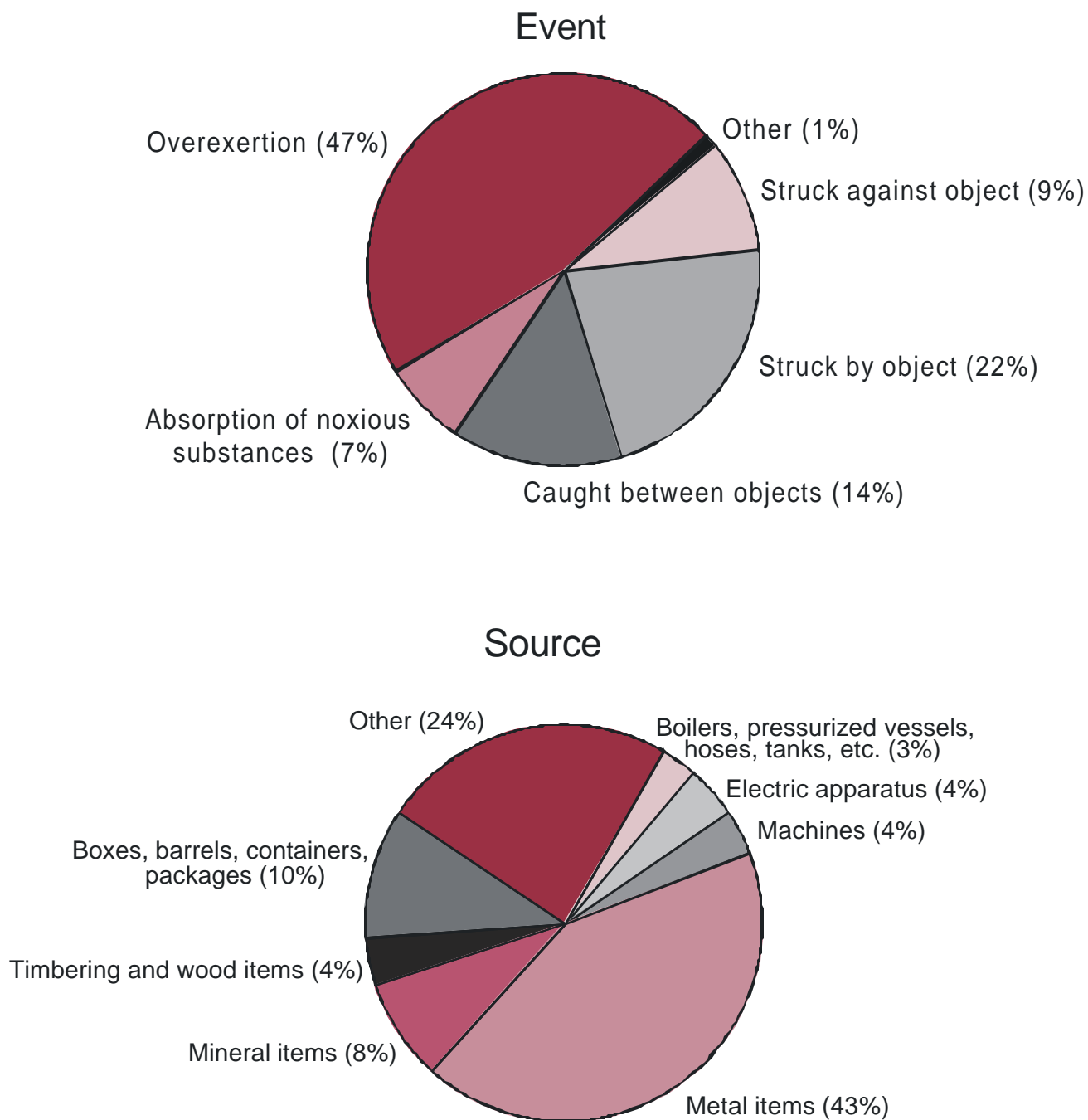


Figure 4B-12.—Metal operators: nonfatal material handling injuries, 1986-1995. Percent of injuries by event resulting in injury and by source of injury (n = 10,869). (Source: MSHA data)

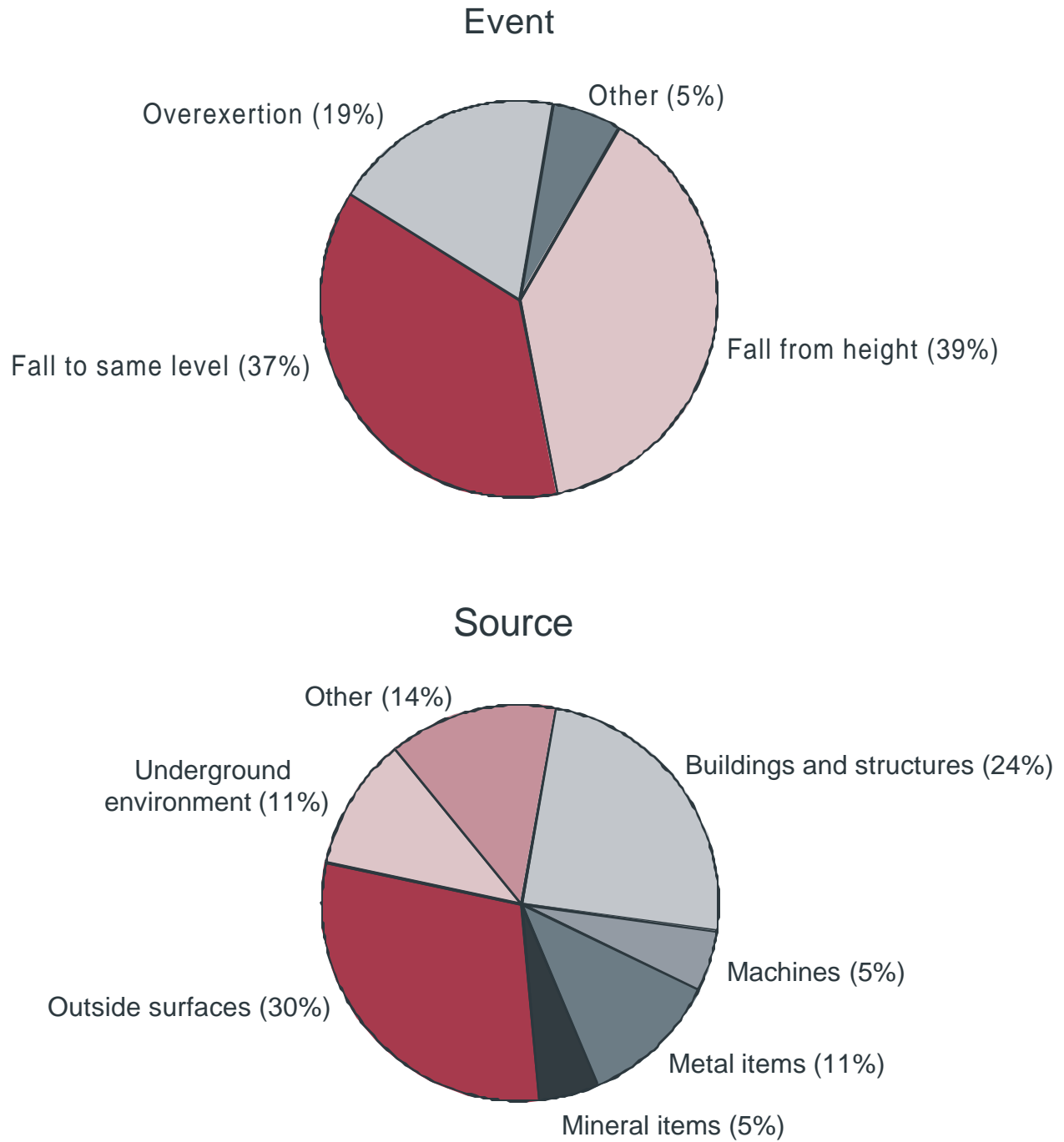


Figure 4B-13.—Metal operators: nonfatal fall injuries, 1986-1995. Percent of injuries by event resulting in injury and by source of injury (n = 5,675). (Source: MSHA data)

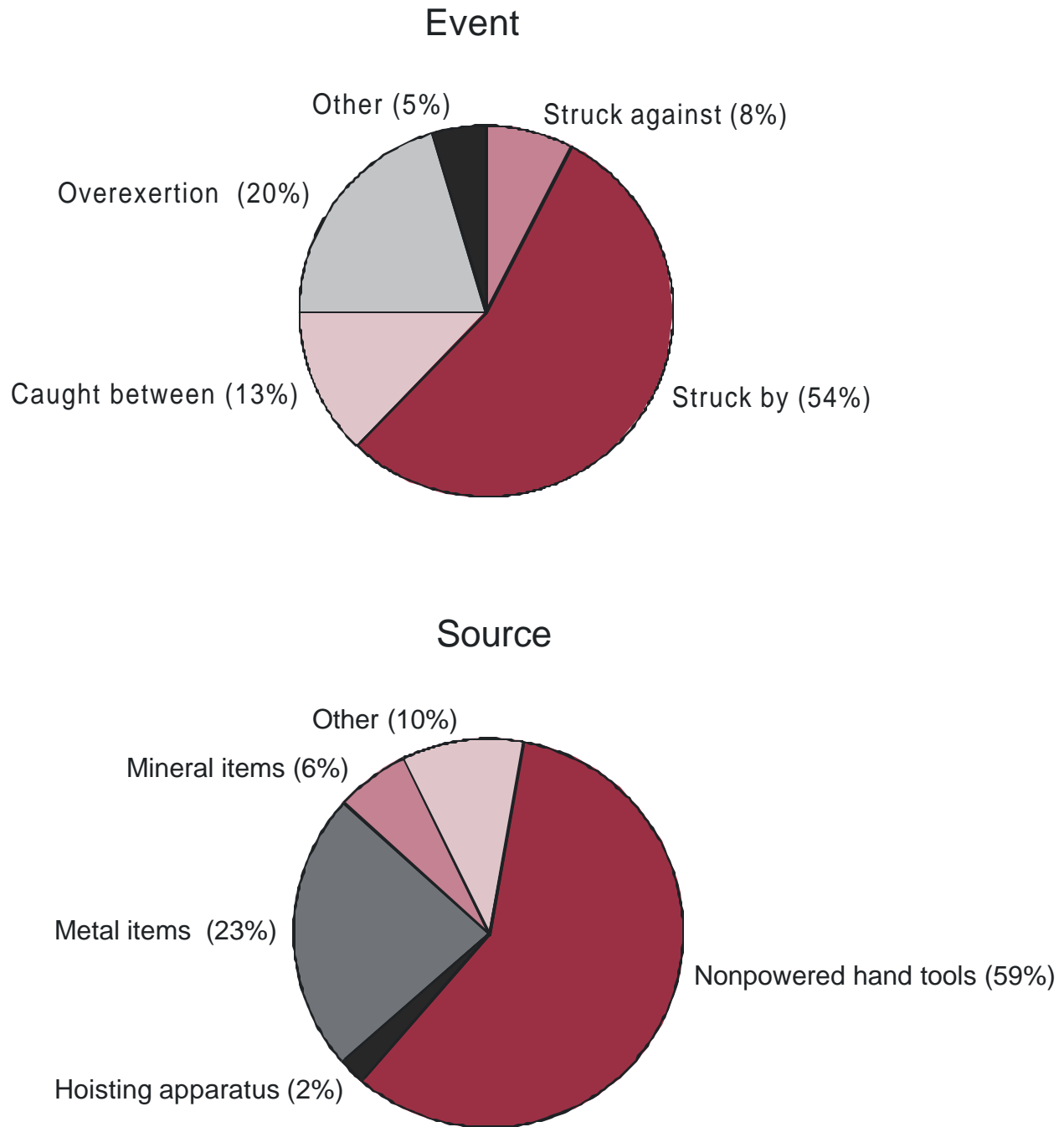


Figure 4B-14.—Metal operators: nonfatal hand tool injuries, 1986-1995. Percent of injuries by event resulting in injury and by source of injury (n = 4,750). (Source: MSHA data)

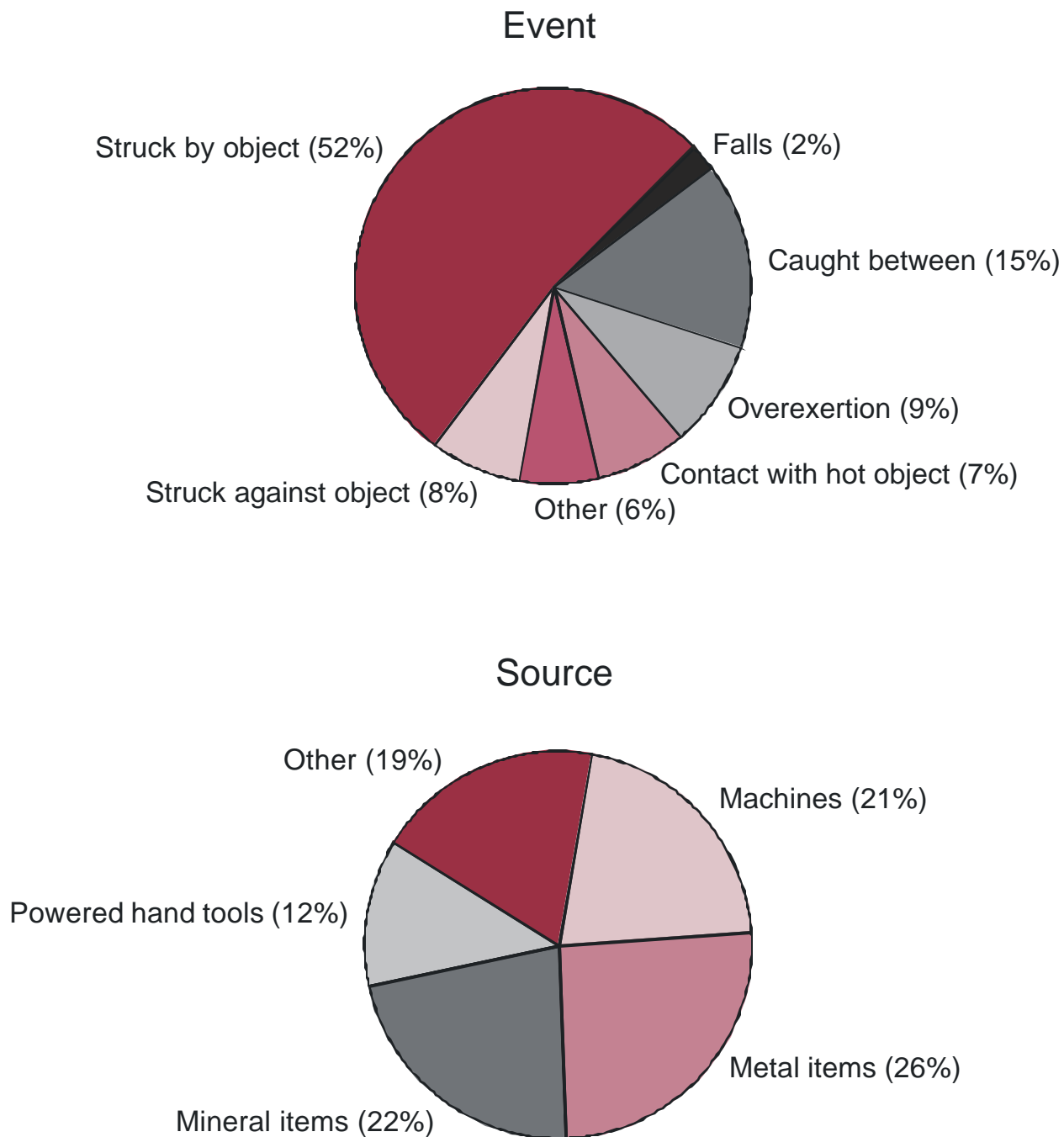


Figure 4B-15.—Metal operators: nonfatal machine injuries, 1986-1995. Percent of injuries by event resulting in injury and by source of injury (n = 4,610). (Source: MSHA data)

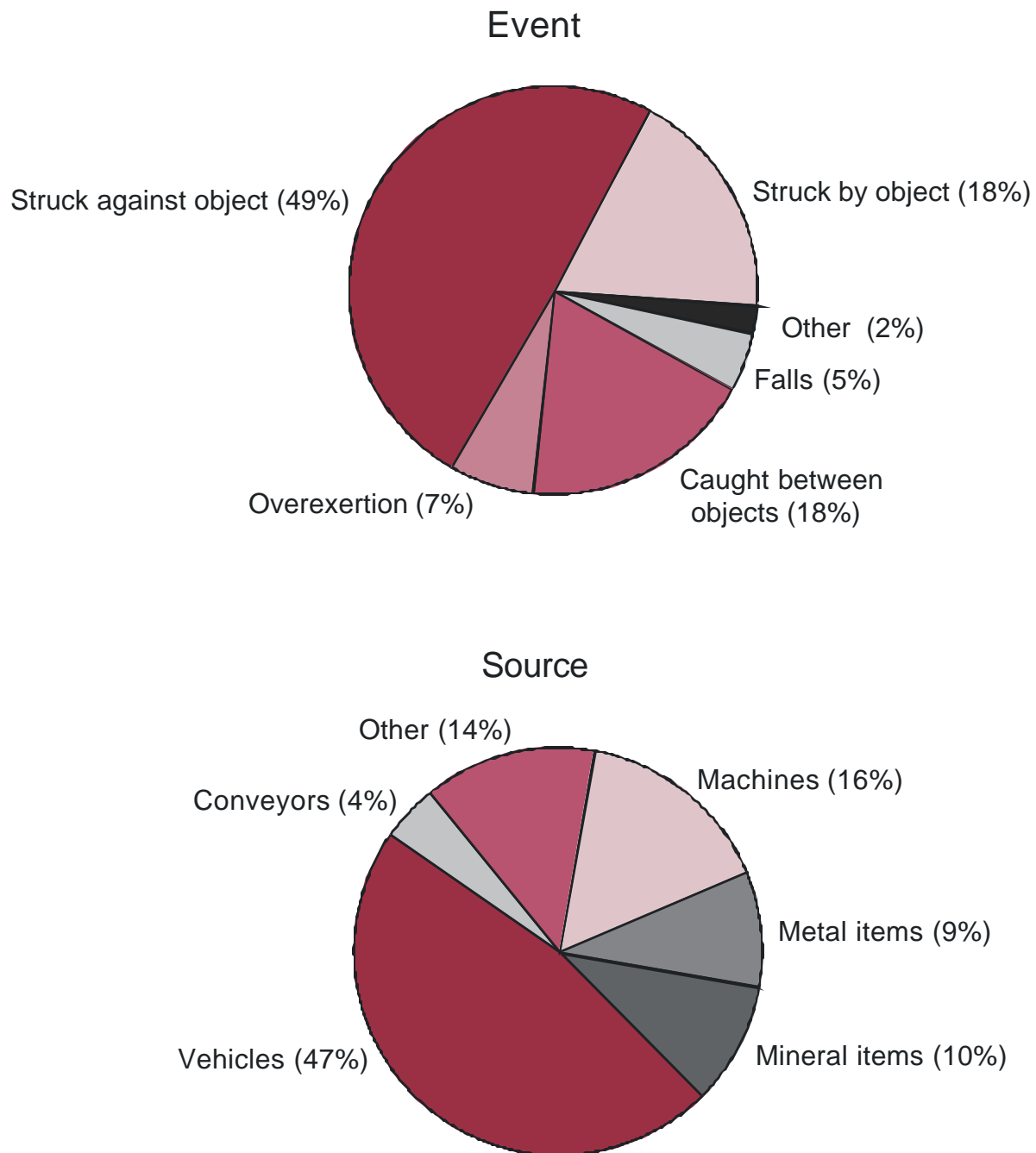


Figure 4B-16.—Metal operators: nonfatal powered haulage injuries, 1986-1995. Percent of injuries by event resulting in injury and by source of injury (n = 2,243). (Source: MSHA data)

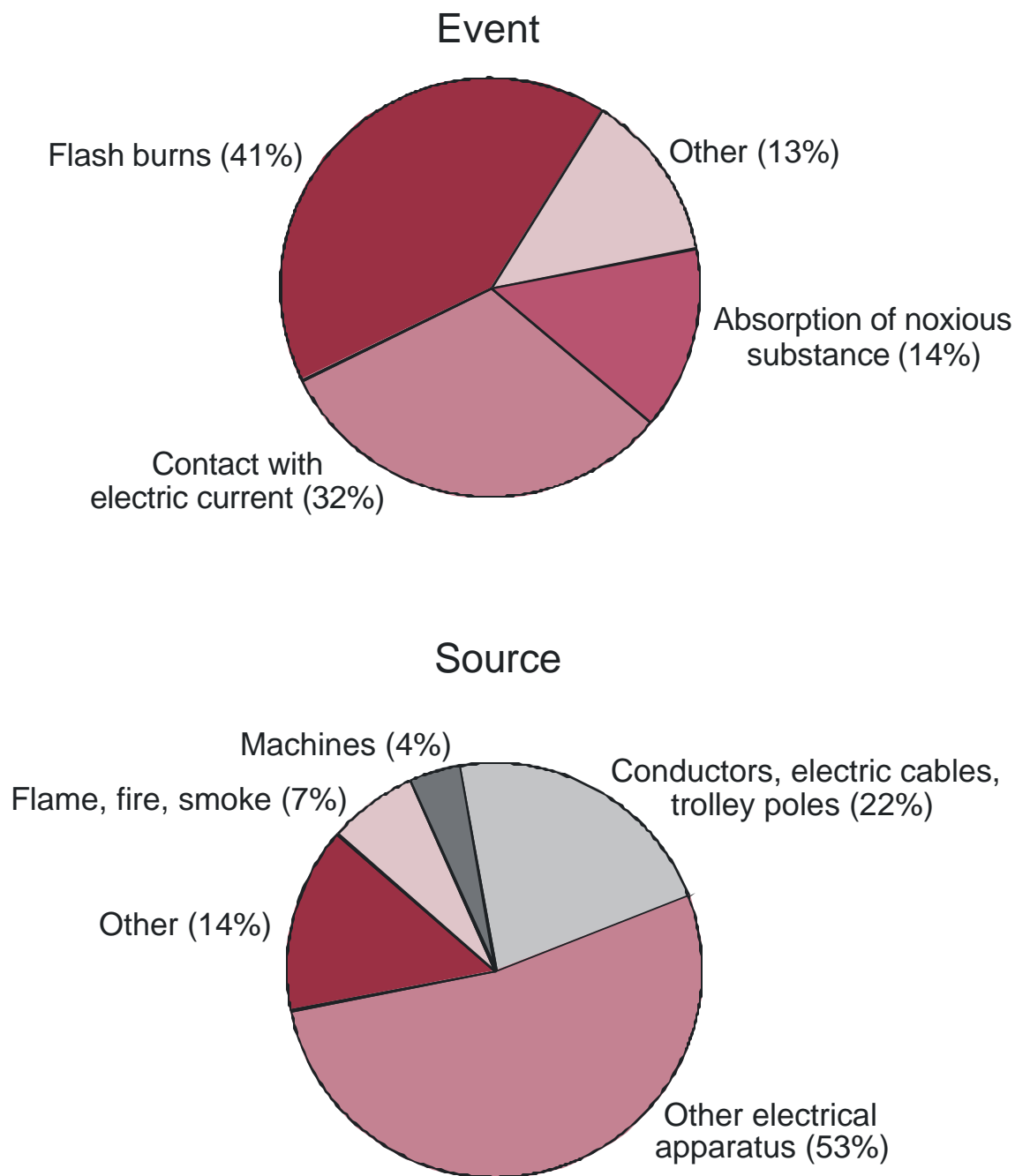


Figure 4B-17.—Metal operators: nonfatal electrical injuries, 1986-1995. Percent of injuries by event resulting in injury and by source of injury (n = 155). (Source: MSHA data)